



NIXON PEABODY LLP
ATTORNEYS AT LAW

100 Summer Street
Boston, Massachusetts 02110-2131
(617) 345-1000
Fax: (617) 345-1300

Robert L. Dewees, Jr.
Direct Dial: (617) 345-1316
Direct Fax: (866) 947-1870
E-Mail: rdewees@nixonpeabody.com

July 3, 2005

By Courier and E-File

Mary L. Cottrell, Secretary
Department of Telecommunications and Energy
One South Station, 2nd floor
Boston, MA 02202

Re: Bay State Gas Company, D.T.E. 05-27

Dear Ms. Cottrell:

Enclosed for filing, on behalf of Bay State Gas Company ("Bay State"), please find Bay State's responses to the following information requests of the Department:

DTE 4-34
DTE 4-35

Please do not hesitate to contact me with any questions.

Very truly yours,

Robert L. Dewees, Jr.

RLD/gs
Enclosures

cc: Caroline O'Brien Bulger, Hearing Officer (1 copy)
A. John Sullivan, Rates and Revenue Requirements Division (7 copies)
Andreas Thanos, Assistant Director, Gas Division (1 copy)
Alexander J. Cochis, Assistant Attorney General (4 copies)
Paul E. Osborne, Assistant Director, Rates and Revenue Requirements Division (1 copy)
Service List (1 electronic copy)

BOS1504002.1

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

RESPONSE OF BAY STATE GAS COMPANY TO THE
FOURTH SET OF INFORMATION REQUESTS FROM THE D.T.E.
D. T. E. 05-27

Date: July 3, 2005

Responsible: Lawrence R. Kaufmann

DTE-4-34 Refer to Exhs. BSG/LRK-1, at 12-13 and BSG/LRK-2, at 7-9. Please:
(a) calculate the average annual growth rate of the Company's base distribution revenues (in nominal and real dollars) during the five years before the rate freeze and the five years when the rate freeze was in effect. Provide all documentation, workpapers, formula, computer printouts, etc. showing how the calculations were done;
(b) calculate the annual dollar change in the Company's base distribution revenues (in nominal and real dollars) during the five-year rate freeze period (end-1998 through 2003) and the five-year period before the rate freeze took effect (1993-1998). Provide all documentation, workpapers, formula, computer printouts, etc. showing how the calculations were done;
(c) estimate the dollar amount (in nominal and real dollars) and the growth rate of base distribution revenues that are due to (i) increased use-per-customer, and (b) customer growth before and during the rate freeze period. Provide all documentation, workpapers, formula, computer printouts, etc. showing how the calculations were done;
(d) what conclusions or inferences can the Company draw from the results of (a), (b), and (c) above?

Response: (a) Please see the attached spreadsheet DTE-4-34.
(b) Please see the attached spreadsheet DTE-4-34.
(c) I performed eight simple linear regressions that could be relevant for answering this question. These regressions regress a measure of the dependent variable [either the percent change in distribution revenues (real and nominal) or the dollar change in distribution revenues(real and nominal)] on a constant and a single independent variable (either changes in volumes per customer, changes in customer, percentage growth in volumes per customer, or percentage growth in customers). These regression specifications are listed below and the results are presented in the attached spreadsheet DTE-4-34-regs.

<u>Reg.</u>	<u>Dependent Variable</u>	<u>Independent Variable</u>
1	Ch. nominal revenue	Ch. volumes/customer
2	Ch. real revenue	Ch. volumes/customer
3	Ch. nominal revenue	Ch. customers
4	Ch. real revenue	Ch. customers

5	Growth nominal revenue	Growth volumes/customer
6	Growth real revenue	Growth volumes/customer
7	Growth nominal revenue	Growth customers
8	Growth real revenue	Growth customers

None of the dependent variables were statistically significant in any of the above regressions. I therefore cannot estimate the impact that changes in customers or changes in volumes per customer had on Bay State's distribution revenues.

- (d) I do not believe it is possible to draw any reliable inferences on Bay State's efficiency or cost performance from the analyses performed in (a)-(c) above. Distribution revenues fluctuate considerably from year to year due to weather and other factors that are beyond company control. More reliable inferences can be made on the Company's cost performance by examining its O&M costs. Management has much greater control over changes in O&M costs than over changes in distribution revenues.

Nominal Dollars

Year	Distribution Revenue	Annual Dollar Change in Distribution Revenues	Average Annual Growth Rate of Distribution Revenues
<u>Period Before Freeze Rate Took Effect</u>			
1993	132,364,408		
1994	134,918,133	2,553,725	1.93%
1995	142,957,722	8,039,589	5.96%
1996	144,129,475	1,171,753	0.82%
1997	149,040,139	4,910,664	3.41%
1998	141,869,260	-7,170,879	-4.81%
AVERAGE		1,900,970	1.46%
<u>Five-Year Freeze Period</u>			
1999	155,035,037	13,165,777	8.83%
2000	165,204,890	10,169,853	6.56%
2001	159,822,170	-5,382,720	-3.26%
2002	159,847,616	25,446	0.02%
2003	172,731,503	12,883,887	8.06%
AVERAGE		6,172,449	4.04%

Real Dollars

Year	GDP-PI	Distribution Revenue	Annual Dollar Change in Distribution Revenues	Average Annual Growth Rate of Distribution Revenues
<u>Period Before Freeze Rate Took Effect</u>				
1993	88.39	149,750,433.31		
1994	90.27	149,468,933.70	(281,499.61)	-0.19%
1995	92.12	155,194,834.72	5,725,901.02	3.83%
1996	93.86	153,559,568.08	(1,635,266.64)	-1.05%
1997	95.42	156,202,000.73	2,642,432.66	1.72%
1998	96.48	147,052,873.80	-9,149,126.93	-5.86%
AVERAGE			(539,511.90)	-0.31%
<u>Five-Year Freeze Period</u>				
1999	97.87	158,412,389.14	11,359,515.33	7.72%
2000	100.00	165,204,890.00	6,792,500.86	4.29%
2001	102.40	156,073,289.58	-9,131,600.42	-5.53%
2002	104.10	153,556,409.89	(2,516,879.70)	-1.61%
2003	106.00	162,949,636.33	9,393,226.44	6.12%
AVERAGE			3,179,352.51	2.20%

Year	Avg. Customers	Change	% Ch	Avg. Volume	Change	% Ch	V/N	Change	% Ch
1991	232,792			50,563,972			217.2		
1992	236,747	3,955	1.70%	51,764,607	1,200,635	2.37%	218.6	1	0.66%
1993	240,955	4,208	1.78%	50,998,150	-766,457	-1.48%	211.7	-7	-3.20%
1994	244,519	3,564	1.48%	51,388,988	390,838	0.77%	210.2	-1	-0.70%
1995	248,463	3,944	1.61%	57,353,481	5,964,493	11.61%	230.8	21	9.83%
1996	251,939	3,476	1.40%	52,338,782	-5,014,699	-8.74%	207.7	-23	-10.00%
1997	248,895	-3,044	-1.21%	61,437,746	9,098,964	17.38%	246.8	39	18.82%
1998	246,932	-1,963	-0.79%	62,895,600	1,457,854	2.37%	254.7	8	3.19%
1999	245,832	-1,100	-0.45%	76,441,986	13,546,386	21.54%	311.0	56	22.08%
2000	252,867	7,035	2.86%	71,537,062	-4,904,924	-6.42%	282.9	-28	-9.02%
2001	267,372	14,505	5.74%	64,895,786	-6,641,276	-9.28%	242.7	-40	-14.21%
2002	270,325	2,953	1.10%	67,596,542	2,700,756	4.16%	250.1	7	3.02%
2003	273,943	3,618	1.34%	67,392,604	-203,938	-0.30%	246.0	-4	-1.62%
2004	276,990	3,047	1.11%	62,566,281	-4,826,323	-7.16%	225.9	-20	-8.18%

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

RESPONSE OF BAY STATE GAS COMPANY TO THE
FOURTH SET OF INFORMATION REQUESTS FROM THE D.T.E.
D. T. E. 05-27

Date: July 3, 2005

Responsible: Lawrence R. Kaufmann

DTE-4-35 Refer to Exhs. BSG/LRK-1, at 12-13 and BSG/LRK-2, at 7-9. Please compare the average annual growth rate of Bay State's O&M costs (in nominal and real dollars) to the average annual growth rate of the Company's base distribution revenues during the five years before the rate freeze and the five-year period when the rate freeze was in effect.

Response: Please see the attached spreadsheet DTE-4-35. The average annual growth rates are expressed in logarithmic terms.

Nominal Dollars

Year	Distribution Revenue	O&M Expenses
<u>Period Before Freeze Rate Took Effect</u>		
1993	132,364,408	65,415,001
1994	134,918,133	62,523,740
1995	142,957,722	66,299,161
1996	144,129,475	67,191,284
1997	149,040,139	81,671,948
1998	141,869,260	85,172,044
Average growth rate	1.39%	5.28%
<u>Five-Year Freeze Period</u>		
1999	155,035,037	74,096,114
2000	165,204,890	77,741,265
2001	159,822,170	75,169,900
2002	159,847,616	83,794,794
2003	172,731,503	83,038,764
Average growth rate	3.94%	-0.51%

Real Dollars

Year	GDP-PI	Distribution Revenue	O&M Expenses
<u>Period Before Freeze Rate Took Effect</u>			
1993	88.39	149,750,433	74,007,242
1994	90.27	149,468,934	69,266,870
1995	92.12	155,194,835	71,974,338
1996	93.86	153,559,568	71,587,471
1997	95.42	156,202,001	85,596,550
1998	96.48	147,052,874	88,284,057
Average growth rate		-0.36%	3.53%
<u>Five-Year Freeze Period</u>			
1999	97.87	158,412,389	75,710,257
2000	100.00	165,204,890	77,741,265
2001	102.40	156,073,290	73,406,672
2002	104.10	153,556,410	80,496,839
2003	106.00	162,949,636	78,336,240
Average growth rate		2.05%	-2.39%